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CRES Report

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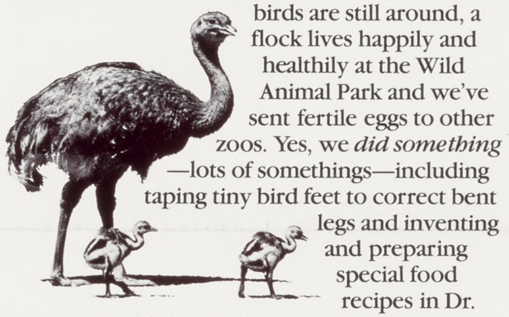
CRES Celebrates a Decade of Discoveries

The Center for Reproduction of Endangered Species (CRES) is operated by the Zoological Society of San Diego, a non-profit organization.

A decade of discoveries. These are only some of the highlights, some of the most memorable events for all of us at CRES and for the field of zoo research in general. Since our modest beginning in 1975, CRES has become nationally and internationally known and renowned for its work. We're enormously proud of our hard-earned reputation. We also recognize that we would not have any of these discoveries to report if it weren't for the dedication and support of all of you who have given so generously to CRES throughout this past decade. We thank you. ■



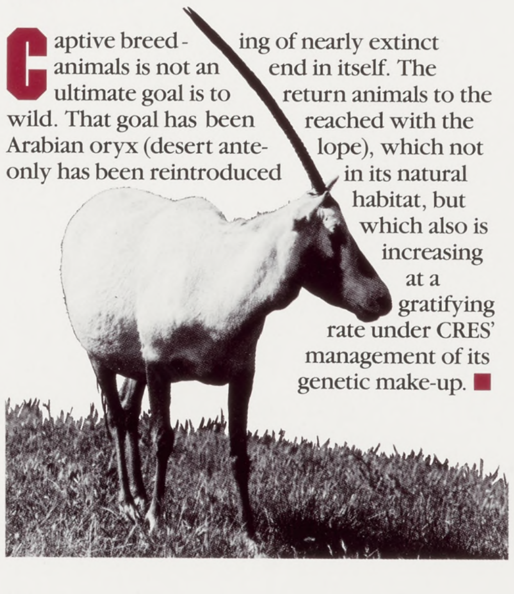
Our first charge in 1975: To *do something* about the vanishing colony of Darwin's rhea and its salmonella problems. Ten years later, birds are still around, a flock lives happily and healthily at the Wild Animal Park and we've sent fertile eggs to other zoos. Yes, we *did something*—lots of somethings—including taping tiny bird feet to correct bent legs and inventing and preparing special food recipes in Dr. Kurt Benirschke's wife's meat grinder. ■

Some call it the Frozen Zoo, others the Ark of the 20th Century. We call this sub-zero cell bank our storehouse for the future. Today it contains over 600 specimens (semen, embryos and skin frozen as cell cultures), enabling us to protect future research interests. ■

A surprising number of birds look exactly alike, whether they're male or female. As you can imagine, this can present a real problem when we're acting as matchmakers in order to breed endangered birds. Here again, CRES came to the rescue, finding a reliable way to determine the sex of birds without ever touching them. We've experienced great success in our efforts to pair kiwis, bald eagles, California condors and other monomorphic (look-alike) birds that are in danger of disappearing in the wild. ■

Making great strides in exotic animal research isn't enough. We also feel a strong sense of responsibility to help ensure that the work will be carried on far into the future. So, in 1984 we encouraged and enlarged the exposure of new people to the fields of zoo research by inviting 11 college students to participate in a CRES-sponsored course at the San Diego Zoo. The students learned a lot, and—we can safely say—so did we. ■

Captive breeding of nearly extinct animals is not an end in itself. The ultimate goal is to return animals to the wild. That goal has been reached with the Arabian oryx (desert antelope), which not only has been reintroduced in its natural habitat, but which also is increasing at a gratifying rate under CRES' management of its genetic make-up. ■



Improving reproduction of endangered species is only half the story. To succeed in making new babies only to have them felled by infectious diseases would be to achieve an empty success. Thus we've worked to reduce the impact of highly dangerous diseases through improving preventive measures and identifying causes. We've reduced, by more than 50 percent, the death of newborn deer, antelope and calves rejected by their mothers. We've made significant inroads in understanding what causes malignant catarrhal fever and in diagnosing it in wildebeests, and we've succeeded in identifying carrier species and managing them so they aren't a hazard to other animals. ■

Another highlight has been our adaptation of new testing methods to evaluate whether animal sperm is fertile or infertile. This knowledge is extremely important as we continue programs to artificially inseminate endangered animals. ■

How do you draw a blood sample from a 10-foot-long lizard? Any way he wants you to! The case of the Komodo monitor—usually called dragon because of its size and its forked yellow tongue—proves all too well that exotic animal research often is as much muscle as it is brains. When CRES researchers found that blood could be drawn from a tail vein (a discovery made on a much smaller iguana), it then took four strong people to wrestle a Komodo to the ground. While they were doing it, they kept remembering the film they'd seen of a Komodo devouring a 50-pound goat in less than a minute. Not a comforting thought, but they were duly heartened by the success of the venture. Blood samples now are taken regularly, if not easily, in this manner. ■

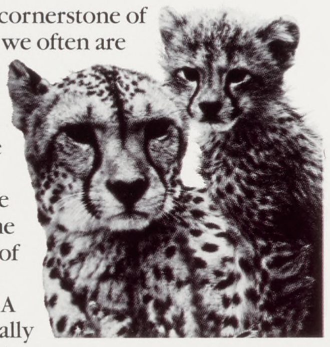
Research can take us out of the laboratory and far afield, as it did for Dr. Benirschke in 1983 when he traveled to Paraguay in search of the giant Chaco peccary. This species had been known to Western science only as a fossil and was believed to be extinct. Then it was discovered to exist, but in rapidly diminishing numbers. Dr. Benirschke set off to learn as much as possible about the animal's life history, and he was able to learn, for the first time, what its chromosomes look like. All of this knowledge will be put to use as we attempt a captive propagation program aimed at saving these intriguing animals from becoming the fossils we once thought they were. ■

When we first attempted to film an elephant birth, mom ate the camera. A set-back, yes; but CRES researchers persisted and have successfully filmed several deliveries. From this we've learned new ways to design special facilities for breeding and births. Watching elephants, for example, taught us that the mother may drag her newborn youngster along the ground a little to get it moving. To protect the babies from injury, we've recessed tie-down rings into the flooring so that the surface is smooth. Another lesson we learned was that lion-tailed macaque mothers like to help themselves during contractions by grabbing onto something while in a sitting position. So, we've installed special bars in the macaques' birthing area. ■

We may have learned as much during the past decade about computers as we have about zoo research. Certainly we've learned that they are life-savers for storing and analyzing data. The truth is, CRES was more or less *forced* into the computer business when researchers began investigating the pedigrees of Przewalski's horses in order to manage a captive breeding program. We couldn't do the job alone. At CRES, *everyone*—man or machine—must cooperate in the management of endangered species. And everyone does! ■

Not all CRES discoveries result from high-tech research. We made a distinctly low-tech breakthrough when we created waterbeds for animals. The idea was a simple one, but it's made a major impact on the comfort and health of our animals. Before waterbeds, we used heat lamps to warm birthing areas. But moms got too hot and moved away from the lamps to areas where babies were too cold. Via waterbeds we provide and regulate the correct, healthful, temperature-controlled environment. ■

If we put all of the Society's members and friends under the microscope, we'd discover hearts of solid gold. For proof, just look to Kicks for Critters. Begun in 1980 to support CRES research efforts, this program has raised almost $800,000 to date, ensuring much-needed stability and longevity for our work to save endangered animals from extinction. ■



Cheetah and cub

Patience is the cornerstone of research, and we often are reminded what huge rewards our patience can gain. The story of Nyrie the cheetah is a good example. She was able to become pregnant because of a novel technique initiated by CRES. A little pump, originally meant to be worn by infertile women on a belt around their waists, was painstakingly adapted so that it could be implanted in Nyrie's shoulder and release a hormone that would enable her to ovulate and become pregnant. One little pump; one giant stride in treating infertility in endangered animals. ■

As CRES embarks on its second decade of exotic animal research, we will continue to rely on the generosity of our growing numbers of friends who support our work. If you would like to help CRES and the animals which are saved through its efforts, please contact Donna Damson, (619) 231-1515, ext. 246. ■

Przewalski's horse

This little horse is believed to be extinct in the wild. Its future depends entirely on the quality of the job we do in managing its breeding in captivity. With different bloodlines distributed among 70 zoos throughout the world, our responsibility has been to minimize inbreeding and broaden genetic composition. CRES researchers worked hard to arrange an exchange in 1982 of three Przewalski's horses with the Soviet Union. To us, that's what foreign relations is all about. ■

CRES Report is designed by Tim Reamer.